Enhancing Cultural Relevance in Mobile Health Application Through AI Driven Content Personalization

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Abstract

Mobile health (mHealth) applications offer significant potential to address healthcare disparities in rural areas, where access to traditional healthcare is often limited or unavailable. The effectiveness of these applications, however, relies heavily on the delivery of context-sensitive content that aligns with cultural and individual usage patterns. This study investigates the theoretical role of AI-driven content personalization in enhancing the cultural relevance of mHealth applications, with a focus on rural Sri Lanka. By examining critical cultural factors such as language preferences, literacy levels, traditional healthcare practices, and community specific beliefs, the research proposes a framework for dynamically tailoring health content to meet diverse user needs. The anticipated outcomes of this approach include a 40% increase in user engagement and a 35% improvement in adherence to health recommendations. These projections are from findings identified in similar studies and applied to their contexts of Sri Lankan environment. Furthermore, culturally tailored content is expected to significantly enhance user satisfaction and improve the overall efficiency of digital health interventions. This study emphasizes the transformative potential of AI-driven personalization in bridging healthcare gaps and addressing inequalities in underserved regions. The proposed framework also offers actionable recommendations for designing and deploying culturally adapted mHealth solutions to serve rural populations on a global scale.

Keywords: *mHealth, AI-driven personalization, Cultural relevance, Content adoption*